

In re Application of Ragsdale et al.
Application No. 10/615,283

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AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A composition ~~An additive~~ suitable for use in the manufacture of a polyurethane ~~polymer~~ foam, the additive comprising:

- (a) a polyol,
- (b) a benzotriazole, the benzotriazole being present in the composition ~~additive~~ in an amount of about 0.5 to about 6.0 parts per hundred parts of the polyol (php),
- (c) a lactone-based antioxidant having a 3-phenylbenzofuran-2-one structure, the lactone-based antioxidant being present in the composition ~~additive~~ in an amount of about 0.05 to about 1.0 php, and
- (d) a fourth component selected from the group consisting of:
 - (i) about 0.05 to about 1.0 php of a secondary phenylamine,
 - (ii) about 0.05 to about 2.0 php of a hindered phenol, and
 - (iii) a combination of about 0.05 to about 1.0 php of a secondary phenylamine and about 0.05 to about 2.0 php of a hindered phenol, and
- (e) an isocyanate.

2. (Currently Amended) The composition ~~additive~~ of Claim 1 wherein said fourth component is a secondary phenylamine.

3-16. (Canceled)

17. (Currently Amended) The composition ~~additive~~ of Claim 1 wherein said fourth component is a hindered phenol.

18. (Currently Amended) The composition ~~additive~~ of claim 1, wherein said fourth component is a combination of a secondary phenylamine and a hindered phenol.

19. (Currently Amended) The composition ~~additive~~ of claim 1, wherein said additive comprises:

- (a) a polyol,
- (b) about 0.8 to about 2.0 php of a benzotriazole,

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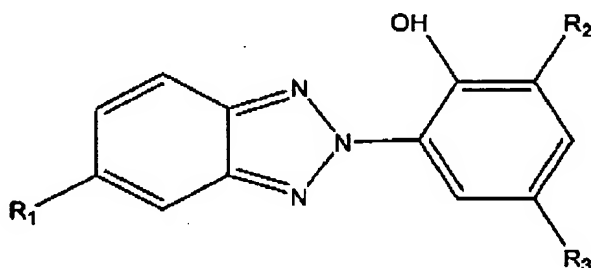
- (c) about 0.1 to about 0.7 php of a lactone-based antioxidant having a 3-phenylbenzofuran-2-one structure,
- (d) about 0.1 to about 0.5 php of a secondary phenylamine, ~~and~~
- (e) about 0.1 to about 1.5 php of a hindered phenol, and
- (f) an isocyanate.

20. (Currently Amended) The composition ~~additive~~ of claim 19, wherein said additive comprises:

- (a) a polyol,
- (b) about 0.8 to about 2.0 php of a benzotriazole,
- (c) about 0.15 to about 0.3 php of a lactone-based antioxidant having a 3-phenylbenzofuran-2-one structure,
- (d) about 0.1 to about 0.5 php of a secondary phenylamine, ~~and~~
- (e) about 0.25 to about 0.65 php of a hindered phenol, and
- (f) an isocyanate.

21. (Currently Amended) The composition ~~additive~~ of claim 1 wherein said benzotriazole conforms to the structure of Formula (I)

(I)

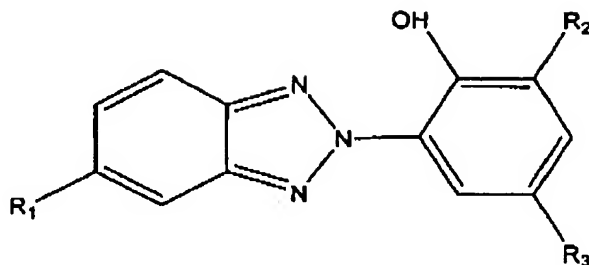


wherein R₁, R₂, and R₃ are individually selected from the group consisting of hydrogen, groups conforming to the formula C_xH_yO_z, where x, y, and z are from 0 to 30, and halogens.

22. (Currently Amended) The composition ~~additive~~ of claim 19 wherein said benzotriazole conforms to the structure of Formula (I)

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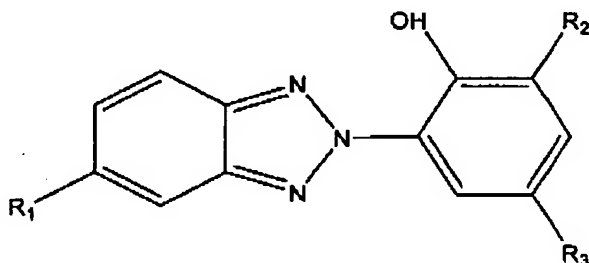
(I)



wherein R_1 , R_2 , and R_3 are individually selected from the group consisting of hydrogen, groups conforming to the formula $C_xH_yO_z$, where x , y , and z are from 0 to 30, and halogens.

23. (Currently Amended) The composition additive of claim 20 wherein said benzotriazole conforms to the structure of Formula (I)

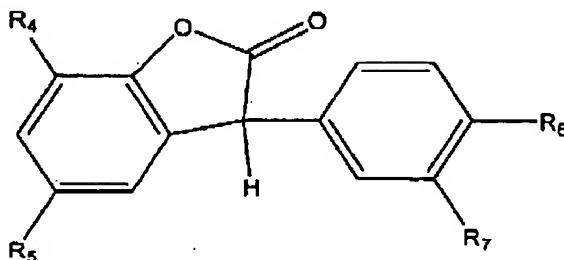
(I)



wherein R_1 , R_2 , and R_3 are individually selected from the group consisting of hydrogen, groups conforming to the formula $C_xH_yO_z$, where x , y , and z are from 0 to 30, and halogens.

24. (Currently Amended) The composition additive of claim 1 wherein said lactone-based antioxidant conforms to the structure of Formula (II)

(II)

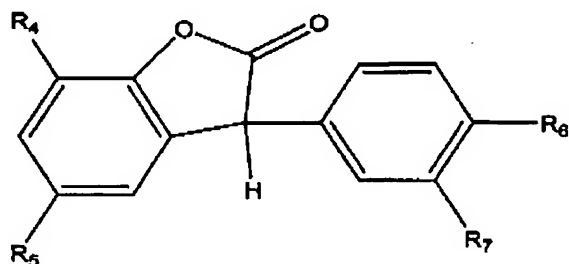


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wherein R_4 , R_5 , R_6 , and R_7 are individually selected from the group consisting of hydrogen and C_{1-30} alkyl groups.

25. (Currently Amended) The composition additive of claim 19 wherein said lactone-based antioxidant conforms to the structure of Formula (II)

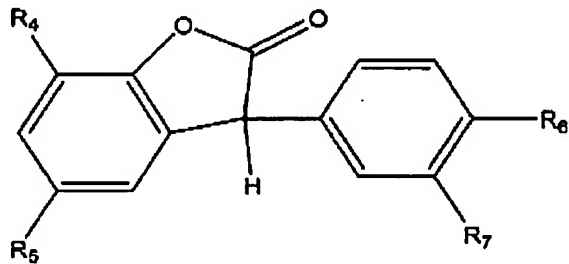
(II)



wherein R_4 , R_5 , R_6 , and R_7 are individually selected from the group consisting of hydrogen and C_{1-30} alkyl groups.

26. (Currently Amended) The composition additive of claim 20 wherein said lactone-based antioxidant conforms to the structure of Formula (II)

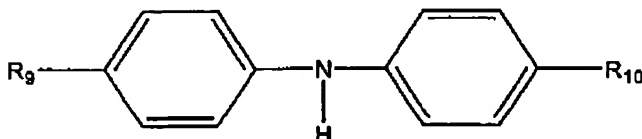
(II)



wherein R_4 , R_5 , R_6 , and R_7 are individually selected from the group consisting of hydrogen and C_{1-30} alkyl groups.

27. (Currently Amended) The composition additive of claim 1 wherein the secondary phenylamine conforms to the structure of Formula (IV)

(IV)

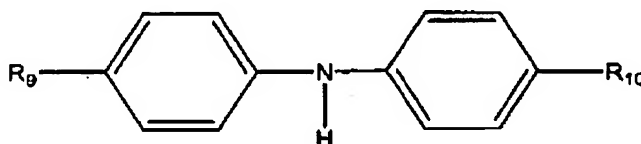


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wherein R_9 and R_{10} are individually selected from the group consisting of hydrogen, groups conforming to the formula $C_xH_yO_z$, where x, y, and z are from 0 to 30, and halogens.

28. (Currently Amended) The composition additive of claim 19 wherein the secondary phenylamine conforms to the structure of Formula (IV)

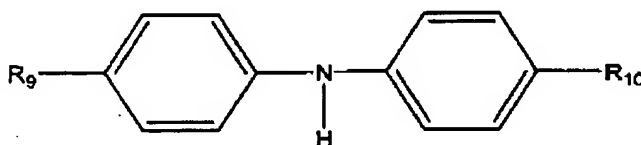
(IV)



wherein R_9 and R_{10} are individually selected from the group consisting of hydrogen, groups conforming to the formula $C_xH_yO_z$, where x, y, and z are from 0 to 30, and halogens.

29. (Currently Amended) The composition additive of claim 20 wherein the secondary phenylamine conforms to the structure of Formula (IV)

(IV)

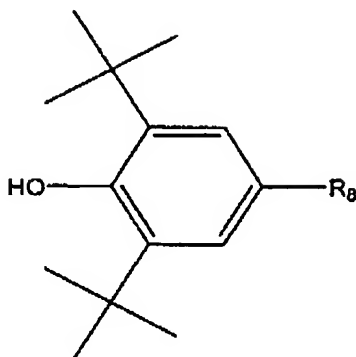


wherein R_9 and R_{10} are individually selected from the group consisting of hydrogen, groups conforming to the formula $C_xH_yO_z$, where x, y, and z are from 0 to 30, and halogens.

30. (Currently Amended) The composition additive of claim 1 wherein the hindered phenol conforms to the structure of Formula (III)

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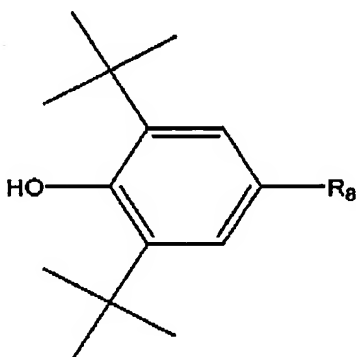
(III)



wherein R₈ is selected from the group consisting of hydrogen, groups conforming to the formula C_xH_yO_z, where x, y, and z are from 0 to 30, and halogens.

31. (Currently Amended) The composition additive of claim 19 wherein the hindered phenol conforms to the structure of Formula (III)

(III)

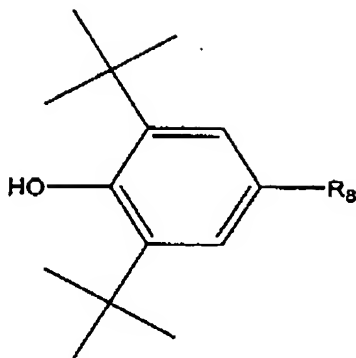


wherein R₈ is selected from the group consisting of hydrogen, groups conforming to the formula C_xH_yO_z, where x, y, and z are from 0 to 30, and halogens.

32. (Currently Amended) The composition additive of claim 20 wherein the hindered phenol conforms to the structure of Formula (III)

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(III)



wherein R₈ is selected from the group consisting of hydrogen, groups conforming to the formula C_xH_yO_z, where x, y, and z are from 0 to 30, and halogens.

33. (Currently Amended) A composition comprising:

- (a) a polyol,
- (b) a benzotriazole,
- (c) a lactone-based antioxidant having a 3-phenylbenzofuran-2-one structure, and
- (d) a fourth component selected from the group consisting of secondary phenylamines, hindered phenols, and combinations thereof, and
- (e) an isocyanate.

34. (Currently Amended) The composition of claim 33, wherein the composition comprises:

- (a) the polyol,
- (b) the benzotriazole in an amount of about 0.5 to about 6.0 parts per hundred parts of the polyol (php),
- (c) the lactone-based antioxidant in an amount of about 0.05 to about 1.0 php, and
- (d) a fourth component selected from the group consisting of:
 - (i) about 0.05 to about 1.0 php of a secondary phenylamine,
 - (ii) about 0.05 to about 2.0 php of a hindered phenol, and
 - (iii) a combination of about 0.05 to about 1.0 php of a secondary phenylamine and about 0.05 to about 2.0 php of a hindered phenol, and
- (e) an isocyanate.